

Dear Amir:

I have given your last message considerable thought, and discussed it at length with Kathy Schmidt. We think that we understand your goals. What we believe you want is the acquisition of some knowledge of neurobiology, particularly neurochemistry and cellular and molecular biology of the nervous system so that you can have a solid background on which to overlay your mathematical modeling and analyses. This is a commendable goal. We have noted numerous examples of abysmal naiveté about the nervous system, and biology in general, in physicists and mathematicians who have entered the field of brain imaging. Unfortunately, neurobiology contains more than the areas in which you have expressed interest. Knowledge of general physiology and neurophysiology and electrophysiology in particular, as well as neuroanatomy are also important. In other words, neurobiology is not really a discipline. It is multidisciplinary which in many cases becomes undisciplinary. Our approach to this danger has been to try to work in multidisciplinary teams made up of experts in each of the discipline but with common research objectives. This can be difficult, but at one time we were quite successful in that approach. This brings me to the issue of your coming here for you education in neurobiology.

At one time our Laboratory would have been an ideal place for you to obtain the experience you seek. We had within our laboratory expertise in biochemistry, neurophysiology, neuroanatomy, neuropharmacology, and even animal behavior, and we all worked as a team with common goals. I regret to say that for reasons that are not really clear to me, probably mainly related to my age, the directors of our institute, NIMH, have seen fit to reduce my space, staff, and budget to less than half. This means that we have lost expertise and, therefore, also the ability to carry out significant multidisciplinary research. For example, we have lost all those with expertise in biochemistry, except me, molecular biology, neurophysiology, etc. The result has been that our current research has become quite narrow, much too narrow to provide you with the breadth of knowledge and experience that you want and should have, and I am afraid that you would be wasting your time here. That is why I suggested that you seek other places with more extensive research activities.

I am aware that there is the constraint of financial support. It is unfortunate that the NRC program is limited to Federal institutions. At the moment the only one that might be included in that category that I can think of is the Brookhaven National Laboratory. There Joanna Fowler runs an excellent PET program with experts in chemistry, neuropharmacology, and also kinetic modeling. If you can find other means of support, possibly a sabbatical from the University of Wisconsin or some type of grant or fellowship, you could consider other places, e.g., Hopfield's at Princeton, Toga's at UCLA, the Mental Health Research Institute or David Kuhl's Nuclear Medicine program at the University of Michigan, or Mike Phelps's program at UCLA. All of these might serve all or many of your goals.

I want you to know that I have enjoyed our interactions and would be pleased to maintain them in whatever manner that you might find rewarding. No matter where you were, we could interact and exchange ideas by Email or visits. This brings us to the matter of my visit to Madison in May. I cannot commit myself at the present time. My wife has been under neurosurgical treatment and is now in a nursing home. This has placed additional responsibilities and burdens on me that make it difficult for me to travel. In fact, I have had to forego my attendance at next week's annual meeting of the American Society for Neurochemistry, one of

which I am a former president and normally always attend. I don't know what the situation will be like in May. If it remains like now, then I could not go.

Lou